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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/689,855	10/22/2003	Masanobu Shigeta	21994-00064-US	4217
30678	7590	06/07/2006	EXAMINER	
CONNOLLY BOVE LODGE & HUTZ LLP			QI, ZHI QIANG	
SUITE 800				
1990 M STREET NW			ART UNIT	
WASHINGTON, DC 20036-3425			PAPER NUMBER	
			2871	

DATE MAILED: 06/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/689,855

Applicant(s)

SHIGETA ET AL.

Examiner

Mike Qi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 4 and 5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 4 and 5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 4-5 are rejected under 35 U.S.C. 102(b) as being anticipated by US 2002/0145692 A1 (Ohkouchi et al).

Regarding claims 4-5, Ohkouchi discloses (paragraphs 0050 – 0077; Figs. 7-10 and Fig.12) that a method of forming an alignment layer of a liquid crystal display comprises:

- positioning a base in a preselected orientation within a filming apparatus, because the substrate (2) transferred into deposition chamber (41) on the substrate tray (33) (see paragraph 0060), such that the substrate (2) would be as a base being positioned in a predetermined orientation within a deposition chamber (41) as a filming apparatus;
- directing a vapor stream of a material to form an inorganic alignment layer for the positioned base, because the evaporation source (43) (oxide silicon, i.e., an inorganic material) for forming the alignment layer deposition (see paragraph 0062), and the stream directed at the base (substrate) at an angle as shown in Fig.10 that evaporation angle ( $\theta$ ) set in a range of 50 to 55 degree to achieve decrease in disclinations (see paragraph 0064), and that is

an angle of 40 to 60 degrees with respect to a normal line of the base as shown in Figs.7,8 and 10;

- introducing oxygen gas into the filming apparatus and maintaining a predetermined gas pressure, because the deposition is performed under the oxygen pressure (see paragraph 0065), and the pre-tilt angle ( $\alpha$ ) is in the range of 2 to 4 degree as shown in Fig.12 (see paragraph 0076) so as to achieve a desired contrast ratio, that is to produce a pre-tilt angle of liquid crystal at an angle of 3 to 10 degree and to evaporate the material for forming the inorganic ( $\text{SiO}_2$ ) alignment layer on the base;
- the oxygen pressure is in a range of  $1 \times 10^{-2} \sim 5 \times 10^{-2}$  Pa for achieving certain thickness (see paragraph 0065), i.e., the oxygen gas pressure is  $6 \times 10^{-3}$  to  $3 \times 10^{-2}$  Pa.

### ***Response to Arguments***

3. Applicant's arguments with respect to claims 1-3 (now canceled) have been considered but are moot in view of the new ground(s) of rejection, according to the new claims 4-5 and the further search set forth above.

### ***Conclusion***

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

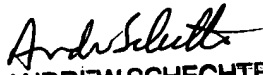
5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mike Qi whose telephone number is (571) 272-2299. The examiner can normally be reached on M-T 8:00 am-5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571) 272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Mike Qi  
June 2, 2006

  
ANDREW SCHECHTER  
PRIMARY EXAMINER